Glottal Constriction in Gorum

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Glottal elements in Gorum

Phenomena

- glottal stop: ʔ
- pre-glottalized voiced obstruents: ʔb, ʔd, ʔɟ, ʔg
- creaky voice: V̰

Problems

- phonemic status
- phonological analysis
- historical situation of creaky voice

Glottal stop ?

Contrastiveness

(1) *ɖa* 'do!'

(2) *ɖaʔ* 'water'

Phonetics

(3) [gaʔ] 'eat!'

(4) [gaʔᵃtu] 'he will eat'

(5) [gaʔᵃru] 'he has eaten'

(6) [tiʔⁱtu] 'he will pull'

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Glottal
elements
Glottal Stop
Pre-Glottalized
Obstruents
Creaky Voice
Phonemic status
Summary

Previous
Accounts
Aze's Analysis
Zide's Analysis
Comparison

Prosodic
Phonology
Syllable Structure
Phonological Stem
Suffixes
Syllabification

Historical
Evidence

Conclusion

Pre-Glottalized Obstruents

Contrastiveness

- contrastiveness is problematic

(7) *ɖaˀbu* 'to cover'

(8) *ɖabu* 'money'

Phonetics

(9) [gaˀd̚] 'cut!'

(10) [gaˀdⁿtu] 'he will cut'

(11) [gaˀdⁿru] 'he has cut'

(12) [seˀbᵐtu] 'he will chop'

(13) [taˀɟʲtu] 'he will give'

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Creaky Voice

Contrastiveness

(14) *a̰l* 'husking pit'

(15) *al* 'thatch!'

Phonetics

(16) [a̰l] 'husking pit'

(17) [sṵr̰] 'hunting'

(18) [a̰suŋ] 'house'

Phonemic status

Minimal Pairs

- ʔO vs. ʔN
    - *ɖa**ʔ*** 'water'
    - *ɖa**ʔ**d* 'for'
    - *kinɖa**ʔn*** 'river-LOC'

- ʔO vs. ṼN
    - *nḛn* 'COND:MED'
    - *kinme**ʔ**d* 'goat'

- Vʔ vs. V̰
    - no good minimal pair!

    - *ɖa**ʔ*** 'water'
    - *a̰suŋ* 'house'

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Phonetic Characteristics

	nucleus	coda
?	unaffected	glottal stop (echo vowel)
ˀO	partially affected	obstruent
V̰	fully affected	affected

Problems

- How many distinctive phenomena?
- What level of phonology?

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Previous Accounts

Aze's Analysis

- one single prosodic feature (/ʔ/) of the syllable (or rhyme)
- no distinction between creaky voice (V̰) and glottal stop (Vʔ)
- pre-glottalized obstruents analyzed as glottalization + nasal

  ʔO → ʔN   and   V̰ → Vʔ

- minimalization of possible syllable structures

  (C)V(ʔ)   (C)V(ʔ)N

Problem

		Aze's view
CVʔ-N	*kinḍaʔn* 'river-LOC'	kinḍaʔn
CVʔO	*ḍaʔd* 'for'	ḍaʔn

Previous Accounts

Zide's Analysis
glottalized obstruents are not phonemic

- glottal stop VʔO → Vʔ
- creaky voice V̰ → VH
- glottalized obstruents ʔO → O

Problems

- phonological treatment of creaky voice "H"
- status of glottalized obstruents

(19) ɖaʔbu 'to cover'

(20) ɖabu 'money'

Previous Accounts

Comparison

		Aze		Zide	
CV	ɖa 'to do'	CV	ɖa	CV	ɖa
CVN	ɖan 'to guard'	CVN	ɖan	CVN	ɖan
CVʔ	ɖaʔ 'water'	CVʔ	ɖaʔ	CVʔ	ɖaʔ
CVˀO	ɖaˀd 'for'	CVʔN	ɖaʔn	CVC	ɖad
V̰	a̰suŋ 'house'	Vʔ	aʔsuŋ	VH	aHsuŋ

	CVʔ	CVˀO	V̰
Aze	all one, phonemic		
Zide	phonemic	not phonemic	phonemic

Prosodic Phonology

Syllable Structure

- (C)V(C) (two very rare exceptions: ɖrVC, CVŋk)
- glottal constriction connected to rhyme/coda
- clear distribution

Possible Syllables

(C)V	(C)V̰	(C)Vʔ	(C)VʔO
(C)VN	(C)V̰N		
(C)V(j/r/l)	(C)V̰N/r/l)		

Phonological Stem

Constraint on Glottal elements

$\sigma_M\sigma_M$	*kanmun*	'pig'
$\sigma_M\sigma_G$	*kusoˀd*	'dog'
$\sigma_G\sigma_M$	*a̰suŋ*	'house'
*$\sigma_G\sigma_G$		

Reduplication

(21) zum → zumzum

(22) gaʔ → gagaʔ

(23) gaˀd → gagaˀd

Causatives *ab-*

(24) ab+soˈɟ → ab-soˈɟ

(25) ab+suŋ → aˀb-suŋ (or a̰b-)

Phonological Stem

Distribution in the Stem

CVʔ	CVC.CVʔ	CVC.CVC.CVʔ
CVˀO	CVC.CVˀO	CVC.CVC.CVˀO
CV̰C	CV̰C.CVC	CVC.CV̰C.CVC

(26) *gaʔ* 'to eat'

(27) *seˀb* 'to chop'

(28) *bṵl* 'to be drunk'

(29) *tupaˀd* 'to thresh'

(30) *kinḍaʔ* 'river'

(31) *g̰otuŋ* 'cloth'

(32) *bio̰gi* 'cloth'

Phonological Stem

Minimal Nominal Stems

- bisyllabic
- monosyllabic with glottal element
    - (33) ḍaʔ 'water'
    - (34) baʔb 'head'
    - (35) a̰l 'husking pit'
    - (36) sṵr 'hunting' cf. sur 'to hunt'

Creaky Voice in Loans

- CVCV → CV̰CV
    - (37) ḍo̰pa 'leaf bowl' from Telugu *doppa*
    - (38) ka̰ḍu 'bangles' from Desia Oriya *kaḍu*

Suffixes

Affectedness/Medium

(39) *koko#-tuʔ* 'He will sit.'

(40) *ḍimaʔd#-tuʔ* 'He will sleep.'

(41) *or-giˈɟ#-n-a̰j* 'It is not visible.'

Allomorphy?

- glottal stop *-ʔ*
  - CVʔ
- creaky voice *V̰*
  - (C)V̰N
  - (C)V̰j

Suffixes

Placement

(42) ne-   koko # -tuʔ
      1sA- sit   # -NPST:AFF
      σ   σσ   # σ

(43) ḍuk # -ḭŋ
      be # -1sU:AFF
      σ   # σ

(44) or-   gi̤ʔɟ # -n   -a̰j
      NEG.F- see # -INF.INTR -CISL:AFF
      σ   σ   #   σ

(45) ḍuk # -ḭŋ   -aj
      be # -1sU:AFF -aj
      σ   # σ   σ

Syllabification

Is there resyllabification?

- gaˀd-u 'cut-INF:TR'
- /gaˀd.u/
- /ga.ˀdu/

ḍa.bu 'money'

ḍaˀb.u or ḍa.ˀbu 'to cover'

Historical Evidence

Correspondences
Gorum /ʔ/ : Sora /ʔ/ : Juray /ʔ/
Gorum /ʔd/ : Sora /d/ : Juray /d/
Gorum /◌̰/ : Sora ∅ : Juray ∅

An example

Gorum	a̰l	'husking pit'
Sora	ɔno:l	'husking pit'
Gutob	saʔl	'husking pit'
Kharia	sol	'husking pit'

Conclusion

Summary

- There is a clear prosodic dimension to glottal constriction.
- Glottal constriction is especially connected to the (phonological) stem.
- There seems to be a connection to syllable weight.
- Historical evidence for creaky voice is problematic.

Outlook

- Focus on prosodic structure in Gorum
- Analyse glottal constriction in Juray: creaky voice/glottal stop
- What about Korku tone?

Thank You

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